a device for changing said cusp pattern with respect to said wall connected between the plurality of magnetic elements and the process chamber.



4. (Once Amended) The apparatus, as recited in claim 3, wherein said magnetic elements are permanent magnets and each magnetic element has a length that extends substantially from the top end to the bottom end of the process chamber.

5. (Once Amended) The apparatus, as recited in claim 3, wherein said plurality of magnetic elements is [are electromagnets] at least 32 magnetic elements.

9. (Once Amended) The apparatus, as recited in claim 8, wherein said device for moving at least one of said magnetic elements comprises a device for moving a plurality of said plurality of magnetic elements individually, wherein each magnetic element is individually rotated around an individual axis of rotation passing through the magnetic element.

15. (Once Amended) [The] A plasma processing apparatus[, as recited in claim 2] for processing a substrate, comprising:

a process chamber, defined at least in part by a wall, within which a plasma is ignited and sustained for said processing;

a magnetic array having a plurality of magnetic elements that are disposed around the periphery of said process chamber, said plurality of magnetic elements being configured to produce a magnetic field establishing a plurality of cusp patterns on said wall; and

a device for changing said cusp pattern with respect to said wall connected between the plurality of magnetic elements and the process chamber, wherein said device for changing said cusp pattern comprises a device for moving at least part of said chamber wall within said magnetic field.

28. (Once Amended) A plasma processing apparatus for processing a substrate, comprising:

a process chamber, defined at least in part by a top end and a bottom end and a wall extending between the top end and the bottom end, within which a plasma is ignited and sustained for said processing;

a magnetic array having a plurality of magnetic elements that are disposed around the periphery of said process chamber around the outside of said wall, said plurality of magnetic elements being configured to produce an azimuthally symmetric radial gradient magnetic field establishing a plurality of cusp patterns on said wall, and wherein each of the plurality